INTISARI

Latar belakang: Kejadian infeksi dengue semakin meningkat dalam 3 dekade terakhir dengan morbiditas dan mortalitas yang tinggi, mempunyai spektrum klinis luas yang menyulitkan diagnosis. Pemeriksaan laboratorium untuk diagnosis infeksi dengue sebagian besar menggunakan uji serologi yang memiliki keterbatasan untuk digunakan pada tiap fase dengue. Rasio netrofil-limfosit (RNL) merupakan suatu indeks yang berasal dari komponen parameter pemeriksaan darah rutin yang mudah, murah, dan diharapkan dapat membantu memprediksi infeksi dengue lebih awal.

Tujuan: Mengetahui nilai prediksi RNL dalam diagnosis infeksi dengue pada populasi dengan demam ≤ 72 jam disertai tanda gejala klinis menyerupai infeksi dengue.

Metode: Desain penelitian ini adalah observasional analitik dengan mengekstraksi data sekunder dari penelitian multisenter *The International Research Consortium on Dengue Risk Assessment, Management and Surveillance* (IDAMS) tahun 2012-2016. Subjek penelitian adalah pasien usia ≥ 5 tahun dengan demam ≤ 72 jam. Pemeriksaan darah rutin dikerjakan di Instalasi Laboratorium Klinik RSUP Dr. Sardjito saat periode IDAMS *study*. Nilai prediksi pada RNL terpilih ditentukan dengan melihat nilai ramal positif (NRP) dan nilai ramal negatif (NRN)

Hasil : Penelitian dilakukan pada 92 subjek yang terdiri dari 36 subjek demam dengue fase akut dan 56 subjek demam non dengue. Nilai *cut off* RNL terpilih adalah ≤ 1,75 yang diperoleh berdasarkan kurva ROC dengan luas *area under the curve* parameter RNL sebesar 0,692,memberikan hasil nilai ramal positif sebesar 52,6% dan nilai ramal negatif 82,8%.

Simpulan : Nilai *cut off* RNL ≤ 1,75 memberikan nilai ramal positif 56,2% dan nilai ramal negatif 82,8% yang dapat memberitkan tambahan informasi dalam diagnosis infeksi dengue.

Kata kunci : Infeksi dengue fase akut, rasio netrofil-limfosit, penampilan diagnostik, nilai ramal positif.

ABSTRACT

Background: The incidence of dengue infection is increasing in the last 3 decades with the chance of high morbidity and mortality accompanied with a broaden clinical spectrum that makes the diagnose difficult. Laboratory examinations to confirm dengue infection often using serological test that have limitation and not giving sophisticate result in every dengue phase. The neutrophil to lymphocyte (NLR) ratio is a measurement based from the components of routine blood examination parameters that are starting to be widely used to predict patterns of disease because of the simplicity, inexpensive, and can provide a lot of information on serial examinations but have not yet applied much diagnostic value to infections dengue.

Objective: To determine the prediction value of NLR in dengue infection from the patient with fever ≤ 72 hours accompanied by clinical signs resembling dengue infection.

Method: This is an observational analysis using secondary data from a multicenter research on the International Research Consortium on Dengue Risk Assessment, Management and Surveillance (IDAMS) in 2012-2016. The subjects of this study were patients aged ≥ 5 years with fever ≤ 72 hours. Routine Blood tests conducted at the Clinical Laboratory Department of Dr. Sardjito hospital to obtain neutrophil and lymphocyte parameters. Predictive value of NLR cut off selected were determine after collecting the value of positive predictive value (PPV) and negative predictive value (NPV).

Results : Ninety two subject were participated in this study and classified into dengue fever (36 subject) and non dengue fever (56 subject). Selected cut off value of the NLR are ≤ 1,75 derived from ROC curve with area under the curve (AUC) 0,692, giving the PPV 52,6% and NPV 82,8%.

Conclusion : The RNL cut off value by ≤ 1,75 was able to provide information about predictive value for dengue fever that consist of positive predictive value 56,2% and negative predictive value 82,8% in which could be beneficience to manage the disease

Keywords: acute phase dengue infection, neutrophil to lymphocyte ratio, diagnostic value, NS1, positive predictive value, negative predictive value